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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,714	10/06/2003	Aziz Chafic Awad	Healthtreat 4.1-1	2884
21036	7590	06/14/2006	EXAMINER	
MCLEOD & MOYNE, P.C. 2190 COMMONS PARKWAY OKEMOS, MI 48864			HENDRICKS, KEITH D	
			ART UNIT	PAPER NUMBER
			1761	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>
	10/679,714 Examin r Keith Hendricks	AWAD, AZIZ CHAFIC Art Unit 1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Pri rity under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10-03.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is indefinite for the recitation of the phrase “a pH of the aqueous medium is adjusted to reduce the acrylamide production.” Initially, the term “adjusted” is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear in which direction (acidic or basic) the pH should be “adjusted” in order to “reduce the acrylamide production.” Secondly, the nexus between a reduction in acrylamide production and the pH adjustment has not been clearly set forth.

### ***Claim Objections***

Claim 18 is objected to because of the following informalities: the phrase “wherein water the aqueous medium” is grammatically incorrect and confusing. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

i) Claims 1-4, 6, 8, 10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hilton et al. (US PAT 4,140,801).

Hilton et al. disclose a process for making potato products with “a relatively low tendency to brown during frying.” Potatoes which have a high amount of reducing sugars are “subdivided into smaller potatoes such as slices, dices or riced or mashed potatoes” (col. 2, ln. 39-41), and are subsequently fermented in an aqueous medium with a yeast. The yeast used are “sufficient to lower the reducing sugar content of the potato solids during fermentation to an extent that they have improved resistance to browning during frying” (col. 2, ln. 39-43). “To provide a mixture of lower reducing sugar content the fermented solids can be mixed, before or after extensive drying, with potato solids of less reducing sugar content, if this be desired” (col. 2, ln. 60-63). “After fermentation, the resulting potato solids made in accordance with the present invention are dried to a substantially lower moisture content” (col. 4, ln. 15-17). At column 6, the reference states that the processed potato may be made into such items as French cut potatoes, or chips, and the material is suitable for frying. Example 1 teaches that the sliced and mashed potatoes were combined with baker’s yeast in an aqueous slurry, and fermented at 85°F (29°C). The resultant product was dried and then fried in oil.

In addition, Hilton et al. teach that “to provide a mixture of lower reducing sugar content the fermented solids can be mixed, before or after extensive drying, with potato solids of less reducing sugar content, if this be desired” (col. 2, ln. 60-63). “Among the materials which may be added to the mixture to be formed, are, for example, starch-containing ingredients such as rice, tapioca, potato or wheat flour or starches, antioxidants or other additives, and the solids are preferably composed to a major extent of potato solids (col. 6, ln. 7-12).” The addition of the second source of potato solids (col. 2, ln. 60-63), or the other starch-containing materials (col. 6, ln. 7-12), inherently provides both a source of added sugar and amino acids, thus meeting instant claims 2-3.

Thus, the instantly claimed invention is anticipated by the reference. Regarding the instant claim limitation that the starch-based food “contains less acrylamide than without the fermentation”, made by a process “to reduce the acrylamide production upon cooking”, it is noted that the fact that applicant may have recognized or “discovered” another advantage which would flow naturally from following the teachings of the prior art cannot be the basis for patentability when the stated differences would otherwise be inherently present in the prior art product. In the instant case, simply because the reference did not address each and every possible property of the resultant cooked product, including acrylamide levels, does not change the fact that the disclosed starting materials and methods are the same as those instantly claimed, and thus the referenced product would also necessarily possess the claimed properties. In fact, Hilton et al. noted that the fermentation resulted in a reduction of reducing sugars which were known to lead to increased browning upon cooking such as frying. Applicant has performed or provided no distinct

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step such that the property of “reduced acrylamide production” would unexpectedly occur in the claimed invention, but not in the reference.

ii) Claims 1-5, 7-8, 10, 13-14 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Silva (US PAT 4,500,548).

Silva disclose “a fermentation aid for yeast-raised bakery goods comprising a fermented mixture of flour, sugar, water and a yeast of the species *Saccharomyces cereviseae* wherein the mixture is fermented” (abstract). “The ratio of flour to water is variable.” “Preferably, the yeast is fermented in a slurry ferment preferably using a water content ranging from about 160 parts to about 200 parts water” (col. 3-4). “Sugar in an amount ranging from 0% to about 10% and preferably from about 3% to about 8% based on the weight of the flour is used in the fermentation for a practical fermentation rate” (col. 3, ln. 37-40). “The yeast of the species *Saccharomyces cereviseae* is also known as ‘baker's yeast’ ” (col. 3, ln. 44-45). “pH adjusting agents (acids, alkalis, buffers and neutralizing agents) can also be added during the course of the fermentation to control or maintain the pH level” (col. 3, ln. 55-58). “A portion of dough or slurry, either fresh or dried from a previous ferment can be added as an ingredient of a new ferment” (col. 4, ln. 33-35).

The passage connecting columns 4-5 states:

The starting pH which can range as high as about pH 6.0 and as low as about pH 5.0 can then be adjusted if necessary. For effective fermentation it is preferred that the starting or initial pH be within the range of from about pH 5.7 to about pH 5.1. pH adjustments can be made with food grade acids or alkalis if necessary. The fermentation can then be conducted under slight agitation to keep the ingredients admixed.

Fermentation is carried out at a temperature most effective for the species of yeast used. In general temperatures ranging from about 20.degree. C. to about 30.degree. C. should be used.

At column 5, lines 16-18, the reference teaches that “the fermentation is generally conducted until the pH of the ferment is below 4.75 and preferably within the range of from about 4.75 to about 4.25.” At the bottom of column 5, the reference states that the method may be used to produce various bakery items, such as bread, crackers, pretzels and the like. This is accomplished by the addition of the processed food material (i.e. the fermentation aid) to the sponge and/or dough components, for final mixing and cooking.

Thus, the instantly claimed invention is anticipated by the reference. It is noted that the instant claims do not recite nor require any specific form of “processed food”. The instant claims encompass the processing of a “fermentation aid”, such as that disclosed by Silva, which meets the method claim

limitations including a subsequent cooking step. Regarding instant claim 13, Silva teaches that “a portion of dough or slurry, either fresh or dried from a previous ferment can be added as an ingredient of a new ferment”; this meets the claim limitations because said portion contains the yeast microorganisms utilized in the previous batch. Regarding the instant claim limitation that the starch-based food “contains less acrylamide than without the fermentation”, made by a process “to reduce the acrylamide production upon cooking”, it is noted that the fact that applicant may have recognized or “discovered” another advantage which would flow naturally from following the teachings of the prior art cannot be the basis for patentability when the stated differences would otherwise be inherently present in the prior art product. In the instant case, simply because the reference did not address each and every possible property of the resultant cooked product, including acrylamide levels, does not change the fact that the disclosed starting materials and methods are the same as those instantly claimed, and thus the referenced product would also necessarily possess the claimed properties. Applicant has performed or provided no distinct step such that the property of “reduced acrylamide production” would unexpectedly occur in the claimed invention, but not in the reference.

iii) Claims 1-5, 7-8, 11-12, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollenbeck (US PAT 3,615,697).

Hollenbeck discloses the production of a malt flavor additive for starch-based foodstuffs to be baked, produced by the anaerobic fermentation of malt flour in an aqueous medium with a lactic acid producing microorganism. “Generally about 0.5 to 2 parts by weight of water is used for each part by weight of malt flour in producing the fermentable mixture” (col. 1, ln. 52-54). Alternatively or additionally, whey may be used in or as the liquid fermentation medium. Fermentation proceeds with any suitable lactic acid-producing bacteria at 25-40°C, in the pH range 3.3-4.3. A CaCO<sub>3</sub> buffer may be added to reduce the acidity of the fermentation medium. Following fermentation, the product is subsequently dried. See column 3. The processed food mixture is then further mixed with other dough components and baked to provide a variety of final products, including bread, “dried cereals of the ready-to-eat variety, and crackers” (col. 4, ln. 5-10). Column 3, lines 65-73 teach that “a small amount of dextrose or other easily fermentable sugar may be added to the whey to accelerate the pre-fermentation”, where “the resulting prefermented whey can then be combined with the malt flour and the fermentation continued.”

Thus, the instantly claimed invention is anticipated by the reference. It is noted that the instant claims do not recite nor require any specific form of “processed food”. The instant claims encompass the

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processing of a starch-based fermented dough additive, such as that disclosed by Hollenbeck, which meets the method claim limitations including a subsequent cooking step. Regarding the instant claim limitation that the starch-based food “contains less acrylamide than without the fermentation”, made by a process “to reduce the acrylamide production upon cooking”, it is noted that the fact that applicant may have recognized or “discovered” another advantage which would flow naturally from following the teachings of the prior art cannot be the basis for patentability when the stated differences would otherwise be inherently present in the prior art product. In the instant case, simply because the reference did not address each and every possible property of the resultant cooked product, including acrylamide levels, does not change the fact that the disclosed starting materials and methods are the same as those instantly claimed, and thus the referenced product would also necessarily possess the claimed properties. Applicant has performed or provided no distinct step such that the property of “reduced acrylamide production” would unexpectedly occur in the claimed invention, but not in the reference.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

i) Claims 1-5, 7-12, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn (US PAT 5,221,617).

Lynn discloses a process for producing fermentation products which are a precursor base for addition to bakery dough. The precursor base comprises “an acidic concentrate, at least one type of sugar, yeast, at least one type of flour, non-fat dry milk and at least one type of lactic acid producing bacteria” (abstract). The flour (starch) based product is fermented in an aqueous medium, where “the present invention reaches optimal performance while using approximately 15% of the total flour necessary to produce the bakery product”, thus ensuring a “relatively low viscosity” (col. 3, ln. 37-52). The fermenting apparatus includes an agitating means (col. 4). The mixture may be processed in multiple batches or portions, where a first portion is mixed and fermented, followed by the addition of a second portion, and/or by the recirculation of part of the first portion into a subsequent upstream mix (col. 5-9).

For example, the passage spanning columns 8-9 states:

If the first batch being held in the holding tank has not been depleted, the second batch may be processed through the heat exchanger and supplied to the holding tank on top of the first batch already contained in the holding tank. Alternatively, if the holding tank system still contains a large quantity of the first produced batch, the second fermented batch may be cooled by the heat exchanger and passed through the three-way valve and through an outlet pipe. The second cooled batch may then be returned to the fermentor tank. Thus, the fermentor tank can act as a "holding tank" until the first batch contained in the holding tank is depleted.

The bottom of column 10 states that the pH of the ferment concentrate is in the range of 4.5-5.5.

The disclosed fermentation steps are carried out at a preferred temperature of about 81-82°F.

Although Lynn teaches that which is recited above, further including the statement that "the present invention provides the necessary elements that enable the baker in the bakery industry to produce, through a fast fermentation method, end bakery products that display all of the desirable characteristics normally achievable only through the long fermentation methods" (col. 2, ln. 54-63), the reference does not specifically disclose a cooking step utilizing the end fermented concentrate. However, given the fact that the reference specifically deals with the issues surrounding the production of baked dough products by producing a particular component of such dough products, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have utilized the disclosed methods for producing the fermented concentrate of Lynn, and to have incorporated such a product within a bakery dough for producing a baked product such as a bread. Given the specific teachings of the reference, this would not have involved an inventive or patentable step.

Further, distilled or purified water was commonly utilized in both laboratory settings for the culturing and fermentation of various microorganisms, in order to avoid contamination, and also within the baking industry to also provide a clean source of liquid and to avoid contamination. Thus the use of such distilled or purified water, as recited in instant claim 18, would have been obvious to one of ordinary skill in the art, and would not have involved an inventive step.

Regarding the instant claim limitation that the starch-based food "contains less acrylamide than without the fermentation", made by a process "to reduce the acrylamide production upon cooking", it is noted that while applicant may have recognized or "discovered" another advantage which would flow naturally from following the teachings of the prior art, this cannot be the basis for patentability when the differences would otherwise be obvious, and present in the prior art product. In the instant case, simply because the reference did not address each and every possible property of a resultant baked product, including acrylamide levels, does not change the fact that the claimed starting materials and methods are also disclosed and suggested by the reference, and thus the resultant product would also be expected to

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possess the claimed properties. Applicant has performed or provided no distinct step such that the property of “less acrylamide than without the fermentation” would unexpectedly occur in the claimed invention, but not in the reference.

ii) Claims 5, 13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al.

Hilton et al. is taken as cited above.

Regarding instant claim 5, yeast were routinely cultured and fermented in the art within a pH range of 4-8, both in laboratory settings and also within the food art. Most food-type yeast would be expected to be active and survive only within this approximate range, and thus although Hilton et al. did not specifically recite a pH for the disclosed fermentation conditions, it would have been obvious to one of ordinary skill in the art to have fermented the disclosed yeast in the aqueous medium at a pH of 4-8. Further, the use of a portion of microorganisms from a previous batch of fermented foodstuff was notoriously well known and commonly done for centuries in all areas of fermented foods, including breads, yogurts and cheese, and fermented beverages. Thus, it would have been obvious to one of ordinary skill to have also utilized this age-old tradition within the fermentation process of Hilton et al.

Further, distilled or purified water was commonly utilized in both laboratory settings for the culturing and fermentation of various microorganisms, in order to avoid contamination, and also within the baking industry to also provide a clean source of liquid and to avoid contamination. Thus the use of such distilled or purified water, as recited in instant claim 18, would have been obvious to one of ordinary skill in the art, and would not have involved an inventive step.

Finally, regarding the washing step of instant claim 15, Hilton discloses a step of washing the potato slices with an aqueous medium prior to fermentation and subsequent cooking, as was commonly done in the art prior to cooking to eliminate excess starch released from ruptured cells (bottom col. 2). “Fermentation before extensive drying is easily accomplished since the potato solids can be readily handled and may be less sticky or starchy than when fermentation is conducted after the potato solids are highly dehydrated” (col. 2). The abstract also states that “the potatoes which are fermented before dehydration exhibit a good rate of reducing sugar decline during fermentation, and may have less yeasty or fermentation taste upon frying, than potatoes which are fermented after drying to a low moisture level.” Thus in order to ensure a “less yeasty fermentation taste upon frying”, it would have been obvious to one of ordinary skill in the art to have washed the yeast-fermented potato pieces with water prior to drying

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and frying; given the teachings of the reference and the state of the art at the time the invention was made, this would not have involved an inventive step in the art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KEITH HENDRICKS  
PRIMARY EXAMINER